

REMARKS

The present application was filed on September 22, 1999 with claims 1-11. Claims 2, 6 and 11 have been canceled without prejudice. Claims 1, 3-5, 7-10 and 12-14 remain pending. Claims 1, 5, 10 and 12 are independent claims.

In the Decision on Appeal dated June 27, 2007, the Board: (i) rejected claims 1-11 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,414,858 to Hoffman et al. (hereinafter "Hoffman") in view of Applicants Admitted Prior Art; and (ii) rejected claims 12-14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,933,598 to Scales et al. (hereinafter "Scales"). Applicants hereby reopen prosecution.

With regard to the rejection of claims 1-11 under 35 U.S.C. §103(a) as being unpatentable over Hoffman in view of AAPA, Appellants respectfully assert that the cited combination fails to establish a *prima facie case of obviousness* under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143.

As set forth therein, M.P.E.P. §2143 states that three requirements must be met to establish a *prima facie case of obviousness*. For example, the cited combination must teach or suggest all the claim limitations. Thus, it is sufficient to show that a *prima facie case of obviousness* has not been established by showing that this requirement has not been met.

The collective teaching of Hoffman and AAPA fails to suggest or render obvious at least the elements of independent claims 1, 5 and 10 of the present invention. For at least this reason, a *prima facie case of obviousness* has not been established.

The present invention, as recited in independent claim 1, recites a method of processing work items in a data processing system, comprising the steps of: (i) generating an interrupt in response to receipt of a work item in the system; (ii) disabling system interrupts pending processing of the work item; (iii) scheduling a task through the generated interrupt for processing of the work item by placing the task on task queue; (iv) executing the task to process the work item when the task reaches the top of the queue; (v) processing additional work items received by the system; (vi) when there are no additional work items for processing, speculatively scheduling a further task for processing of subsequently received work items in the system, without enabling system interrupts; (vii) executing the speculatively scheduled task to process work items received by the system; (viii) processing one or more work items when at least one work item has been received by the system

when the speculatively scheduled task is executed; (ix) repeating the scheduling, executing and processing steps after processing the one or more work items, without enabling system interrupts; and (x) enabling system interrupts when no additional work items have been received by the system when the speculatively scheduled task is executed. Independent claims 5 and 10 recite other aspects of the invention comprising similar limitations.

Hoffman discloses a system and method for dynamically varying between interrupt and polling methods to service requests of computer peripherals. The rates of incoming requests are tracked, and if a rate meets a specified threshold, the method may transition from interrupt to polling, or polling to interrupt. AAPA simply discloses that during the handling of a service request through an interrupt, system interrupts are disabled, then reenabled when the handling of the service request is complete.

While Hoffman discloses a transition from a polling method to an interrupt method when a certain request rate is reached, the transition of the present invention is based on a previously speculatively scheduled task finding no additional work items received by the system for processing. Additionally, Hoffman fails to disclose the processing of one or more received work items when the speculatively scheduled task is executed, or the speculative scheduling of an additional further task for processing of subsequently received work items after processing the received work items.

As discussed above, AAPA provides no discussion regarding speculatively scheduled tasks, and thus fails to remedy the deficiencies of Hoffman described above with regard to claims 1, 5 and 10. Therefore, the combination of Hoffman and AAPA fails to suggest or render obvious the elements of claims 1, 5 and 10. Dependent claims 2, 6 and 11 have been canceled without prejudice. Dependent claims 3, 4 and 7-9 are patentable at least by virtue of their dependency from independent claims 1 and 5, and also recite patentable subject matter in their own right. Accordingly, withdrawal of the rejection to claims 1-3, 5-7, and 9-11 under 35 U.S.C. §103(a) is therefore respectfully requested.

With regard to the rejection of claims 12-14 under 35 U.S.C. §103(a) as being unpatentable over Scales, Applicants assert that Scales fails establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143.

Claim 12 of the present invention recites a method of processing work items where an

interrupt-based mechanism for processing work items is provided when system utilization is low with respect to work items, and a polling-based mechanism for processing work items is provided when system utilization is relatively high with respect to work items. System utilization is determined through the speculative scheduling of a task that processes subsequently received work items in the system when there are no additional work items for processing.

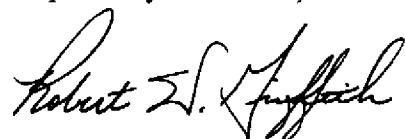
Scales discloses methods for enabling data sharing among workstations of a distributed shared memory system using variable sized quantities of data. In particular, the portion of Scales cited by the Examiner discloses a polling mechanism used to process messages generated by the workstations, and the advantages of such a mechanism over an interrupt mechanism.

Independent claim 12 of the present invention differs from Scales in that it discloses the use of an interrupt based-mechanism and a polling-based mechanism. While Scales discloses a polling mechanism, and the possible use of an interrupt mechanism instead of the polling mechanism, it does not disclose using both a polling mechanism and an interrupt mechanism. Further, Scales does not disclose mechanisms that are dependent on utilization with respect to work items as recited in claim 12 of the present invention.

Dependent claims 13 and 14 are patentable at least by virtue of their dependency from independent claim 12, and also recite patentable subject matter in their own right. Accordingly, withdrawal of the rejection to claims 12-14 under 35 U.S.C. §103(a) is therefore respectfully requested.

In view of the above, Applicants believe that claims 1, 3-5, 7-10 and 12-14 are in condition for allowance, and respectfully request withdrawal of the §103(a) rejections.

Respectfully submitted,



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